



Innovative grocery supplier optimizes business efficiency and productivity with resilient, business-driven SD-WAN

## C&S Wholesale Grocers maximizes bandwidth utilization, improving application responsiveness and quality of experience with Unity EdgeConnect

For American grocery stores and supermarkets, keeping shelves stocked and the produce section filled with just the right fruits and vegetables takes more than having a well-supplied warehouse. It takes data. Just ask C&S Wholesale Grocers.

Founded in 1918, C&S has a storied history of innovation in the grocery supply industry, and today is an industry leader in business intelligence and automation. To help its customers know exactly what products to order, and when, C&S relies on sophisticated

data analytics applications running in two east-coast data centers connected to 60 warehouses across its wide area network (WAN).

C&S relied primarily on MPLS, with backup to direct internet access (DIA) links, and in some cases 4G LTE. However, these backup circuits stood mostly idle, limiting their value. And failing over was a tedious, manual effort, resulting in unpredictable periods of downtime.



C&S  
Wholesale  
Grocers



INCREASED  
PRODUCTIVITY



100% WAN  
INVESTMENT  
UTILIZATION



60% LOWER COSTS  
+ STRONG ROI

Leonard Bernstein, senior director of infrastructure and service delivery for C&S, notes, “The market has changed so dramatically that every second of downtime causes risk to our customers. Volume is growing, and customers need real-time information. We can no longer sustain a circuit outage of any length.”



**The biggest impact on the business is happier customers. Rather than dealing with problems every day, like slow logins or poor internet connectivity, employees are able to just do their jobs and provide our customers with the best service possible.”**

— Leonard Bernstein, Senior Director of Infrastructure and Service Delivery, C&S Wholesale Grocers

## Improving network resilience and efficiency

To improve both resilience and efficiency of the network, Bernstein saw SD-WAN as the right solution. “Our big challenge was to make better use of existing circuits. We wanted to remove the human element and automate more, leveraging intelligence to elevate network services and seamlessly deal with circuit faults without impacting customers. This all pointed to SD-WAN.”

After evaluating several SD-WAN vendors and consulting with strategic IT partner, [Synacktek](#), Bernstein and vice president of infrastructure, Philippe Bourdon, decided on the Silver Peak [Unity EdgeConnect™](#) SD-WAN edge platform. Key to this decision was an

in-depth [Customer Value Assessment](#) (CVA) conducted by Silver Peak. The CVA quantified the dramatic positive impact of an SD-WAN built on the EdgeConnect platform. For example, by reducing dependence on MPLS, maximizing bandwidth utilization, and improving network resilience, the CVA projected annual savings in telecommunication expenses of up to 60 percent, presenting a strong ROI.

C&S engaged Synacktek to help deploy the EdgeConnect platform in its two data centers and 60 warehouses. Bernstein notes, “Synacktek brought the right SD-WAN expertise and bridged the knowledge gap of adopting new technology by helping our team come up to speed on EdgeConnect to deploy and support it.”

Now, where EdgeConnect is deployed, C&S optimally and intelligently uses its MPLS, DIA, and 4G LTE circuits together simultaneously, leveraging tunnel bonding and quality of service (QoS) policies. Bernstein and his team also used the [Unity Orchestrator™](#) management interface to build company-specific application overlays for different application classes, assuring each application class of the network resources needed to meet application performance and business SLA objectives.



In addition, Bernstein and his team implemented the optional [Unity Boost™](#) WAN optimization performance pack at various locations to efficiently handle file transfers and reduce bandwidth consumption through deduplication and compression.

## SD-WAN, routing, and security in a unified edge platform

EdgeConnect now provides C&S with SD-WAN, routing interoperability, and stateful firewall in a unified, centrally managed platform, allowing C&S to retire its traditional routers and firewalls. Bernstein points out, "Our legacy hardware lacked the intelligence for any sophisticated routing. We'd have to create elaborate scripts to do the kind of routing EdgeConnect does out of the box."

With the built-in routing intelligence and security EdgeConnect brings, C&S warehouses can now break out locally to trusted SaaS applications like Microsoft Office 365 and RingCentral instead of backhauling to the data centers as in the past. In fact, thanks to optimal utilization of all available bandwidth, and advanced SD-WAN capabilities such as [path conditioning](#) and [dynamic path control](#), C&S has calculated a 60 percent performance improvement for users accessing applications in the cloud and the data centers.

Moreover, implementing the EdgeConnect SD-WAN edge platform was instrumental in enabling C&S to adopt cloud solutions like RingCentral and a growing number of other SaaS applications used by the business. Bernstein notes, "We wanted to collapse six disparate phone systems and various collaboration apps into a unified cloud solution, but needed a network that could support it. Silver Peak not only brought the SD-WAN capabilities to enable our cloud strategy, but also provides strong integration with RingCentral, which solidified our decision."

C&S also takes advantage of the strong integration between EdgeConnect and Zscaler cloud-delivered security services. By service chaining EdgeConnect with Zscaler, C&S gains additional inspection of traffic destined for the internet in addition to the EdgeConnect stateful zone-based firewall. This provides added security and agility as the company continues to expand its cloud strategy.

## Provides an enhanced work experience

A prime benefit for C&S is increased WAN uptime and resilience. With the EdgeConnect SD-WAN, circuit brownouts or outages no longer disrupt productivity or customer services.

"Our approach is to implement three different types of technology and use SD-WAN to achieve a multiplier effect on our investments," Bernstein explains. "EdgeConnect provides the intelligence to aggregate bandwidth across MPLS, DIA, and 4G LTE, and we've also seen the SD-WAN automatically self-heal when issues happen on the MPLS or DIA circuits. Our safety net, if both MPLS and DIA go down, is 4G LTE. SD-WAN handles 4G LTE just fine."

Ultimately, what does an intelligent, efficient SD-WAN mean to IT and C&S as a business? Bernstein points out that in his department, the benefits of SD-WAN come back as increased engineering resource capacity. "Instead of working on an outage at a warehouse, or trying to figure out why a route to a certain path is not working, my engineers are now available to focus on projects that are more strategic to the business."

He concludes, "The biggest impact on the business is happier customers. We've taken the warehouses from suboptimal performance to an enhanced work experience, providing employees more efficient access to applications in the data center and the cloud. Rather than dealing with problems every day, like slow logins or poor internet connectivity, employees are able to just do their jobs and provide our customers with the best service possible."

For more information on Silver Peak and our solutions, please visit: [silver-peak.com](https://silver-peak.com)





## Customer

[C&S Wholesale Grocers, Inc.](#), is the largest wholesale grocery supply company in the U.S. and the industry leader in supply chain innovation. Founded in 1918 as a supplier to independent grocery stores, C&S now services customers of all sizes, supplying more than 7,900 independent supermarkets, chain stores, military bases and institutions with over 138,000 different products. We are an engaged corporate citizen, supporting causes that positively impact our communities. To learn more, please visit [www.cswg.com](http://www.cswg.com).

## Challenge

C&S relied on an MPLS network and local internet backup circuits to connect its 60 warehouses to applications at two central data centers and a growing number of SaaS applications. The internet circuits either sat idle or were not fully leveraged, representing unrealized value. Moreover, failover was a manual, complex process that resulted in unpredictable periods of downtime, disrupting employee productivity and customer services.

## Solution

C&S deployed the Unity EdgeConnect SD-WAN edge platform in its two data centers and is rolling it out to all 60 warehouses. This enabled the company to use all available bandwidth simultaneously and intelligently while having seamless, automated failover in the event of circuit brownouts or outages. With EdgeConnect as the primary WAN edge

solution, C&S could retire its traditional WAN routers and deploy a full mesh network with unified SD-WAN, routing interoperability, and stateful firewall in a single platform. C&S also implemented the optional Unity Boost WAN optimization performance pack to efficiently handle large file transfers.

## Results

- Enables secure local internet breakout, improving SaaS application performance
- Maximizes value of investments in WAN transport technologies
- Prioritizes applications with optimal network resources aligned with the business need
- Integrates with a growing number of SaaS and cloud solutions, including Office 365, RingCentral, and Zscaler
- Improves performance of SaaS and data center applications by 60 percent
- Assures business uptime with automated, sub-millisecond circuit failover
- Eliminates network connectivity problems, improving user satisfaction
- Frees more time for IT to focus on business-impacting projects
- Enhances quality of employee work experience, increasing productivity
- Enables consistently high quality of service to C&S customers



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